



In the United States Patent and Trademark Office

Application No.: 10/696592
Filed: 10/28/2003
Title: Apparatus and Method for Phased Subarray Imaging
Applicant(s): Jeremy A. Johnson
Examiner: Not Assigned Yet
Art Unit: 3737

Mailed 28 April 2004
Palo Alto, CA

Information Disclosure Statement

Commissioner of Patents and Trademarks
Washington, District of Columbia 20231

Dear Sir or Madam:

Attached is a completed Form PTO-1449 and copies of the pertinent parts of the references cited thereon. It is requested that the document(s) on the enclosed form be made of record.

Part I (Authority)

This statement is filed pursuant to:

(X) 37 C.F.R. § 1.97(b).

This information disclosure statement is filed either (1) within three months of the filing date of the national applications; (2) within three months of the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application; or (3) before the mailing date of a first office action on the merits, whichever event occurs last.

Accordingly, this information disclosure statement requires no fee and no certification.

() 37 C.F.R. § 1.97(c).

This information disclosure statement is filed after the period specified in 37 C.F.R. § 1.97(b), but before the mailing date of either (1) a final action under 37 C.F.R. § 1.113 or (2) a notice of allowance under 37 C.F.R. § 1.311.

Accordingly, this information disclosure statement requires either the fee specified in 37 C.F.R. § 1.17(p) for submission of an information disclosure statement under 37 C.F.R. § 1.97(c) (\$240), or a certification according to 37 C.F.R. § 1.97(e).

() 37 C.F.R. § 1.97(d).

This information disclosure statement is filed after the period specified in 37 C.F.R. § 1.97(c).

Accordingly, this information disclosure statement requires the petition fee specified in 37 C.F.R. § 1.17(i)(1) to consider an information disclosure statement under 37 C.F.R. § 1.97(d) (\$130), a certification according to 37 C.F.R. § 1.97(e), and a petition requesting consideration of the information disclosure statement.

Conditional Petition

It is respectfully requested that this information disclosure statement be considered, good cause being presented in Part III herein (certification). please treat this paper as the required petition.

If this statement crosses in the mail with an office action, or is otherwise not in the indicated category of 37 C.F.R. § 1.97, it is respectfully requested that this statement be treated in the next appropriate category and made of record.

To the extent required, please treat this paper as a conditional petition for acceptance of the

Part II (Payment)

A check is enclosed as indicated:

- ☒ No fee is due.
- ☐ The fee specified in 37 C.F.R. § 1.17(p) for submission of an information disclosure statement under 37 C.F.R. § 1.97(c) is enclosed (\$240).
- ☐ The petition fee specified in 37 C.F.R. § 1.17(i)(1) to consider an information disclosure statement under 37 C.F.R. § 1.97(d) is enclosed (\$130).

Part III (Certification)

Pursuant to 37 C.F.R. § 1.97(e), I certify:

- ☒ No certification is necessary.
- ☐ (1) Each item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the statement.
- ☐ The "communication from a foreign patent office" referred to in the certification is an International Search Report, possibly issued by the U.S. Patent and Trademark Office in its capacity as an International Search Authority or International Preliminary Examining Authority.
- ☐ The "counterpart foreign application" referred to in the certification corresponds to an ancestor or descendent application of the application for which this information disclosure statement is filed.
- ☐ (2) No item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, or, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c), more than three months prior to the filing of the statement.

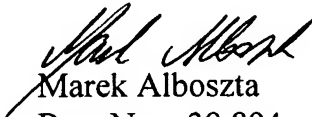
Part IV (Additional Statement)

An additional statement regarding these items of information ☐ is, ☒ is not, enclosed.

Copies of the cited art ☒ are enclosed, ☐ are of record in parent application Serial No. _____ and will be provided if the Examiner deems it convenient.

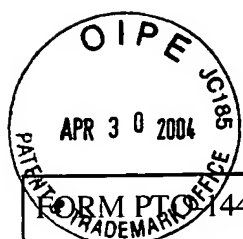
Respectfully submitted,

Dated: 28 April 2004


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FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE										ATTY. DOCKET NO. S02-161/US		SERIAL NO. 10/696592	
LIST OF PRIOR ART CITED BY APPLICANT (Use several sheets if necessary)										APPLICANT Jeremy A. Johnson			
										FILING DATE 10/28/2003			
U.S. PATENT DOCUMENTS													
EXAMINER INITIAL		DOCUMENT NUMBER						DATE	NAME		RELEVANT INFORMATION		
	A	6	0	1	3	0	3	2	01/11/2000	Savord et al.			
	B	6	0	1	6	2	8	5	01/18/2000	Wright et al.			
	C	6	0	4	2	5	4	7	03/28/2000	Wright et al.			
	D	6	0	6	6	0	9	9	05/23/2000	Thomenius et al.			
	E	6	0	7	1	2	4	0	06/06/2000	Hall et al.			
	F	6	1	2	6	6	0	2	10/03/2000	Savord			
	G	6	2	0	1	9	0	0	03/13/2001	Hossack et al.			
	H	6	3	6	0	0	2	7	03/19/2002	Hossack et al.			
FOREIGN PATENT DOCUMENTS													
		2- letter code	DOCUMENT NUMBER						DATE	COUNTRY		TRANSLATION	
											YES	NO	
OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)													
	K												
	L												
	M												
EXAMINER									DATE CONSIDERED				
* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.													

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EXAMINER INITIAL		DOCUMENT NUMBER						DATE		NAME		RELEVANT INFORMATION	
	A	5	5	2	0	1	8	6	05/28/1996	Deitrich			
	B	5	5	7	9	7	7	0	12/03/1996	Finger			
	C	5	5	8	1	5	1	7	12/12/1996	Gee et al.			
	D	5	6	1	7	8	6	2	04/08/1997	Cole et al.			
	E	5	6	2	3	9	2	8	04/29/1997	Wright et al.			
	F	5	5	6	7	3	7	3	09/16/1997	Wright et al.			
	G	5	6	7	5	5	5	0	10/07/1997	Ekhaus			
	H	5	6	7	6	1	4	7	10/14/1997	Petrofsky et al.			
	I	5	7	8	4	3	3	6	07/21/1998	Gopinathan et al.			
	J	5	7	9	3	7	0	1	08/11/1998	Wright et al.			
	K	5	9	4	0	1	2	3	08/17/1999	Daigle et al.			
	L	5	9	5	1	4	7	9	09/14/1999	Holm et al.			
	M	5	9	8	0	4	5	8	11/09/1999	Clark			
FOREIGN PATENT DOCUMENTS													
		2- letter code		DOCUMENT NUMBER				DATE		COUNTRY		TRANSLATION	
												YES NO	
OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)													
		N		Jeremy A. Johnson et al., "Coherent Array Imaging Using Phased Subarrays -- Part II: Simulations and Experimental Results," preprint (2003).									
EXAMINER									DATE CONSIDERED				
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U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	RELEVANT INFORMATION
	A	4 3 8 7 5 9 7	06/14/1983	Brandestini	
	B	4 5 5 3 4 3 7	11/19/1985	Luthra et al.	
	C	4 5 8 6 1 3 5	04/29/1986	Matsumoto	
	D	4 8 3 9 6 5 2	06/13/1989	O'Donnell et al.	
	E	5 2 6 9 3 0 7	12/14/1993	Fife et al.	
	F	5 2 7 8 7 5 7	01/11/1994	Hocter et al.	
	G	5 4 6 1 3 8 9	10/24/1995	Dean	
	H	5 4 6 5 7 2 2	11/14/1995	Fort et al.	

FOREIGN PATENT DOCUMENTS

		2- letter code	DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION
						YES NO

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

	K		L.F. Nock et al., "Synthetic Receive Aperture Imaging with Phase Correction for Motion and for Tissue Inhomogeneities. I: Basic Principle," IEEE Trans. Ultrason., Ferroelect., Freq. Contr., vol. 39, pp. 489-95 (1992).
			M. Karaman, "Ultrasonic Array Imaging Based on Spatial Interpolation," 3rd IEEE International Conference on Image Processing, pp. 745-748 (1996).
	L		O. Oralkan et al., "Capacitive Micromachined Ultrasonic Transducers: Next Generation Arrays for Acoustic Imaging?," IEEE Trans. Ultrason., Ferroelect., Freq. Contr., vol. 49, pp. 1596-1610 (2002).
			J. A. Johnson et al., "Phased Subarray Processing for Underwater 3D Acoustic Imaging," presented at Oceans '02, MTS/IEEE (2002).
	M		J. Johnson et al., "Synthetic Phased Array Image Formation and Restoration," ICASSP, IEEE International Conference on Acoustics, Speech and Signal Processing - Proceedings, vol. 3, pp. 2885-2888 (2002).
			J. A. Johnson et al., "Image Formation and Restoration Using Multi-Element Synthetic Array Processing," Proceedings of SPIE The International Society for Optical Engineering, 2002.
	N		J. A. Johnson et al., "Phased Subarray Imaging for Low-Cost, Wideband Coherent Array Imaging," Proceedings of the IEEE Ultrasonics Symposium (2003).
			Jeremy A. Johnson et al., "Coherent Array Imaging Using Phased Subarrays -- Part I: Basic Principles," preprint (2003).

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